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CONGENITAL WORD- AND LETTER-BLINDNESS.

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CASES of congenital word- and letter-blindness, or *alexia congenita*, are probably more common than it would appear from the number of cases recorded in the literature. Doubtless a search among our elementary schools would reveal many more. An inability to read is of not infrequent occurrence among the feeble-minded; but true word-blindness, with little or no other mental defect, comes under a different category. Only 64 cases of this condition have been reported, and it is noteworthy that the defect appears to be more prevalent among boys than girls, for of the 64 cases, 47 were males and only 17 females. It is at times found in more than one member of a family, and as many as six cases in one family have been observed.

The following case has recently come under my observation, and presents several points of interest.* The patient is a physically well-developed girl, aged 8 years. In appearance she is bright and not unintelligent, but her manner is shy and reserved, and she is

* The patient was shown before the Section for the Study of Disease in Children of the Royal Society of Medicine on November the 26th, 1915.

inclined to associate with adults rather than with other children. In disposition she is placid and good tempered, and she shows no signs of any neurotic tendency or nervous instability. She was born at full term after a normal labour, and was breast-fed until aged 10 months. Three years ago she had measles, followed by pneumonia and whooping-cough. About the same time her tonsils and adenoids were removed, and she suffered from otorrhœa for three months. She has never had any fits. There are two other children in the family; one aged 9 years, who is perfectly normal and can read well, and one aged 4 years. No miscarriages. One child died during its second year from tuberculous meningitis, and the grandfather and one aunt on the maternal side were also tuberculous. The paternal grandfather is said to have some difficulty in reading, but otherwise is of average intelligence.

The girl went to school two years ago, and she is now only in the class above the infants, her defective powers having always been commented upon by her teachers. Her general intelligence at first sight appears good. She answers questions readily and with a smile, and will promptly carry out a series of actions when bidden, *e. g.*, go to the table, take two matches out of the box, place them on the table and bring back the box. Her memory is quite good for both past and recent events, and she recognises people easily, even after a long interval. She also knows the way about her neighbourhood, and can sew fairly well for a child of her age. A closer examination, however, reveals some curious deficiencies. For instance, she cannot tell her age, but knows that her birthday is on Boxing Day, although she is unaware when exactly Boxing Day comes. She knows the day of the week, but not the month or the year; she can repeat the days of the week, but not the months. She has no knowledge of coins or of the value of money beyond the bare fact that twelve pence make a shilling. Thus, in some ways, she is below the normal standard for her age.

As regards the essential features of the case, she cannot say the alphabet, but can write it perfectly on rare occasions, although generally she stops about E or F and then goes wrong. She cannot write a given letter, except occasionally A, and can only at times pick out one or two letters from copies, or from what she has herself written. Her acquaintance with figures is limited. She can count up to twenty, but has no knowledge of numbers above that. She can write the numerals up to twelve, but frequently misses one out and usually stops at nine. Occasionally she can write a given numeral and point one out, and is most likely to succeed with the

first four. She can count a number of objects up to fifteen, and can pick out a given number, but she cannot do the simplest addition in her head. She has no knowledge of Roman numerals. She cannot spell words of even two letters, and cannot read easy words like *is*, either from print or writing. On the other hand, she recognises a few words like her name, *rat*, *cat*, and *dog* when spelt to her. She cannot write from dictation simple words with certainty, *e. g.*, *at* is at times written correctly and at others *ta* ; *on* is a failure ; *cat* is mostly written correctly, but when following immediately after *dog*, the word *dog* is sometimes repeated, and *dog* itself at times sometimes becomes *gdo*.

Her writing appears to consist merely of a limited number of ideograms, which may or may not be correctly performed. Thus, she can write her own name and the name of her school correctly ; but when told to write either *R . . e* or *E . . . y* separately, she still writes her full name, *R . . e E . . . y*. In the same way, when asked to write *school*, she writes *Picardy school*, and the same thing occurs when she is told to write *Picardy* alone. Her powers of concentration flag after a time, and on one occasion, when getting tired and told to write *Picardy*, she wrote *R . . e school*. As a rule she writes and replies fairly quickly, but at times she has a long latent period, and if this is extended beyond three or four seconds, she is generally wrong in her answers.

A further interesting feature in the case is that she will voluntarily write a complicated word like *transcription*, evidently from the top of a copybook, but transposes the last two letters and produces *transcriptino*. On the other hand, she cannot write *description* or either of the syllables *trans* or *scription* separately. Another voluntary effort is to write *copy writing*, which appears as *copy writino*, the *tin* in the final syllable being evidently the same mental picture as the mistake in *transcription*. These two errors she uniformly perpetrates. When, after an interval, she is asked to read words which she herself has written, she is quite unable to do so.

As usually happens in cases of word- and letter-blindness, she can copy correctly anything that is written for her, even unknown letters like Greek. This, however, is a purely mechanical process, as she reproduces the form and even the spacing of the letters without their conveying anything to her mind. Printed words are generally transcribed in printing characters, but occasionally she will copy them in her ordinary handwriting, although again quite unaware of their meaning. She will copy accurately simple free-hand drawings,

and can draw a cross and a square when asked to do so. Attempts to copy black and white illustrations, and even outline drawings, are very feeble, but crude efforts are made at drawing out of her head objects, such as an engine, and she can name the component parts, such as the wheels and funnel.

Her interpretation of illustrations is fairly good, but she did not know an elephant, a donkey, or a goat. On the other hand, when shown a picture of a Chinese woman, she was nearly right in describing it as a Japanese girl. She knows the elementary colours, and has some knowledge of form, in that she recognises a cross and a square, but she does not know a triangle.

The child has no word-deafness; she understands what is said to her, and her vocabulary, so far as can be judged, for she speaks but little, is fairly extensive for a child of her age and disabilities, and she can repeat "pieces" which she has learnt by heart. There is thus no verbal amnesia nor motor aphasia. She can name ordinary objects and specify their uses, and is so far observant, that, when shown a broken toy watch and asked if there was anything peculiar about it, she said what it was, and remarked that it had lost its hands. She knows the use of a watch, but cannot read the time or say approximately what time of day it is.

Her sight is good, and there is no hemianopia. There is no nystagmus nor intention tremor, and all the reflexes are normal. The Wassermann reaction is positive.

The pathology of these cases is somewhat obscure. Rutherfurd* considers it to be of the nature of a reversion to the pre-civilised type, an example of atavism; but in view of the positive Wassermann reaction in the present instance, it is possible that the lesion may be of a syphilitic origin. As this patient is word- and letter-blind, and also letter-deaf, as shown by her lack of knowledge of the alphabet and her inability to spell, the defect, of whatever nature it may be, must be situated around the posterior extremity of the left fissure of Sylvius, as it is in this region that the centres lie. The visual word- and letter-centre is in the left supra-marginal and angular convolutions, whence it is connected by commissural fibres with the primary visual centres in both occipital lobes, and the auditory letter-centre in the posterior part of the first left temporo-sphenoidal convolution. But now comes a difficulty which it is hard to explain. How is it that if the centre in the supra-marginal and angular convolutions on the left side is impaired, the corresponding area on the right side does not take on its function in

* British Journal of Children's Diseases, 1909, vi, p. 484.

the same way as the third right frontal convolution is supposed to act with regard to speech in left-handed persons, or when the third left frontal (Broca's convolution) has been put out of action? In children, with their aptitude for learning, it might be expected that this would naturally occur. Is it, then, to be supposed that in a case like the present there is a symmetrical defect on both sides of the brain? This would appear an extreme hypothesis. And if the defect is situated so as to affect the commissural fibres from both occipital lobes to the supra-marginal and angular convolutions in both hemispheres, it would almost certainly involve the optic radiations passing to the visual centres in the occipital lobes, and thus cause hemianopia, or some other form of blindness. In this case there is no impairment of vision, and it must be supposed, therefore, that the defect is a cortical one in the situation indicated without its being possible at the present time to explain why the corresponding areas on the right side do not take on the functions of the impaired centres. The visual word- and letter-centre is not entirely functionless, as the patient is able to recognise one or two letters at times, and has some power of writing, which shows that the visual word-centre is capable of stimulating the graphic motor-centre; otherwise agraphia would result.

The outlook in these cases is not altogether hopeless. According to Sydney Stephenson,* even severe cases are capable of considerable improvement with systematic and sympathetic training.

OBESITY; EPILEPTIFORM ATTACKS; RECURRENT JAUNDICE IN A GIRL, AGED 13 YEARS.†

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E. C—, female, born November, 1901.

Family history.—There is no family history of neuropathy or obesity, and her parents, who married in 1894, are healthy and rather below the average in size and weight. The patient is the second of two children, and her brother, born in 1896, is healthy.

Personal history.—At birth she was a fine large baby, and since

* 'Reports of the Society for the Study of Disease in Children,' 1904, iv, p. 165.

† The case was shown at the Neurological Section of the Royal Society of Medicine on May the 13th, 1915.

the age of 7 has always been "too large for her age." Her only illnesses have been measles at the age of 3, mumps at the age of 5, and whooping cough at the age of 7. At the age of 9, after a fall down some steps, in which she hurt her head, her weight began to increase rapidly. Since April, 1913, she has been "subject to fits," and in April and November, 1913, and on January the 18th, March the 30th, and April the 20th, 1915, suffered from typical epileptiform convulsions. The attack of March the 30th occurred whilst the patient was under observation in hospital. In each attack she has been convulsed, lost consciousness, become cyanosed; on three occasions she has bitten her tongue, and in one has fallen and cut her cheek. The attacks are followed by drowsiness and intense frontal headache, and on two occasions have led to vomiting. After each attack, for a day or more she has been irritable and excitable. She has always been backward at school, and when she left school in April, 1913, had only reached Standard IV. Since the onset of the attacks her memory had become defective, and she is "no longer the bright girl she was." Catamenia began in May, 1914, and occurred regularly in June, July, August, and September, 1914, and again in March and April, 1915; on the last two occasions the loss was excessive and continued for seven days. From time to time since February, 1915, she has "gone yellow," and since this date definite bilious staining of the eyes has been observed on several occasions. On March the 5th she was definitely jaundiced, and bile was present in the urine in large quantities, but at no time has she complained of abdominal pain or exhibited any abnormal abdominal signs. Her weight on February the 5th was 11 st. 13 lb., and by February the 19th had increased to 12 st. 2 lb.; since this time she has been taking thyroid extract (2½ gr. daily) and her weight has fallen to 11 st. 3 lb.

The patient is an extremely stout, thickly-set girl. The skin is moist and everywhere stained a light brown colour. The mucous membranes appear healthy. There is a well-developed pad over the lower cervical spinous processes and small supraclavicular pads, but on the whole the excess of fat is distributed over parts which about the time of puberty in girls usually show a superabundance of fat. Over the lower parts of the abdomen and upper parts of the thighs well-marked striæ of a white or pink colour are present. The veins over the lower abdomen are prominent. The axillary and pubic hair is well developed and that of the scalp normal. The breasts are large and well developed. The thyroid is small. The bones of the head, trunk, and limbs appear normal, and there is no evidence

of any delayed union of the epiphyses. A skiagram of the skull taken in February, 1915, shows a clear-cut sella turcica of normal outline and dimensions. She is not anæmic, and a blood-count shows red cells 5,600,000 per cubic millimetre, hæmoglobin 106 per cent., and 17,500 white cells per cubic millimetre, with a normal differential count. The voice is natural.

The cardiac sounds are clear. The blood-pressure in the right brachial artery measures 125 mm. of mercury. No abnormal signs are present in the lungs. The liver and spleen cannot be felt and to percussion are not enlarged. No abnormal lumps can be felt in the abdomen. The urine contains neither albumin nor sugar ; the average quantity passed in twenty-fours is 36 oz.

Mentally she is dull and slow. She sleeps heavily and is not troubled with dreams. Apart from the epileptiform attacks she suffers but little from headache. There is no pressure tenderness of the scalp. Vision is unimpaired and the optic discs appear healthy. Smell, taste, and hearing are unaffected. Ocular movements are well carried out, and there is no nystagmus. The pupils react normally to light and accommodation. The functions of the other cranial nerves are performed normally. The knee-jerks and ankle-jerks are brisk, and the abdominal reflexes readily obtained. Both plantar reflexes give a flexor response. The movements of the spine are normal and the action of the sphincters controlled.

Progress.—Between May the 13th and November the 5th, 1915, she has taken daily 30 gr. each of the bromides of potassium, sodium, and ammonium, and 2½ gr. of thyroid extract, and during this period her general health has been fairly good. There have been no further attacks of jaundice, but she has suffered from generalised epileptiform attacks on August the 18th, October the 8th, and on October the 9th, and, apart from the attacks, has complained on several occasions of severe generalised headache lasting for a day at a time. Her weight has gradually increased to 12 st. 11 lb. The catamenia have been irregular and on two occasions have lasted for twenty days continuously. The excess of fat and its distribution have altered little, and the description of the patient and her nervous signs written in May, 1915, is still applicable. Mr. G. W. Thompson reports that the condition of the optic fundi has not altered, and Dr. Gilbert Scott finds that between February and November, 1915, no changes in the outlines of the sella turcica, as seen in the radiogram, have appeared.

Comments.—Obesity in young girls at and about the time of puberty is a normal phenomenon, but as to the factors at work in its

causation little is known. In recent times, with the gradual increase in knowledge of some of the functions of the endocrinic system of glands, much speculation, based on slender foundation in fact and few adequate observations, has been published tending to incriminate alterations in the functions of the thyroid, the pituitary, the pineal, the adrenal, and the gonadic glands, and the interrelations of these, as the underlying factors in its causation. At puberty it is known that this system bursts forth into enormous activity. Is this girl an example of a rather severe obesity of the type which falls into Sir James Goodhart's class of "normal abnormalities"?

The association of obesity with epileptiform convulsions would seem to imply that both may have a single cause. Can this lie in the pituitary body or pineal gland? The distribution of the fat conforms more closely to the distribution seen in normal girls rather than that which is found in examples of dystrophia adiposo-genitalis due to sub-pituitarism, and, moreover, in this case secondary sexual characters in the hair and breasts are present, and menstruation, though irregular, occurs periodically. By our usual criteria no evidence of pituitary involvement can be demonstrated, and as far as I know pineal disease has never been associated with obesity.

Hypernephroma often occurs with precocious sexual or physical development and hirsuties, and is associated with obesity; in these patients the fat is distributed in a manner which recalls the obesity of an oldish man of alcoholic habit. The recurrent attacks of jaundice suggest the possibility of abdominal disease, but here again investigations of the abdomen and of the functions of the liver and pancreas have so far proved negative. At the present time no definite diagnosis can be made. The case has been reported in order to stimulate the collection of observations which may enable us to gain further insight into the causes of obesity in young people, a subject upon which the gaps in our knowledge are still so large.

THE CURE OF SQUINT.*

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(*Continued from* p. 7.)

II.—Treatment.

The treatment of squint has three distinct stages: (1) Balancing the vision of the eyes; (2) awakening of the fusion faculty; (3)

* A paper read before the West London Medico-Chirurgical Society.

operation. These three stages are intimately connected, and follow out of each other. Not every case need go through the whole three stages, for cure may become evident during the first stage, and so eliminate the other two; but no case should reach the third stage of treatment without passing through the previous two.

Balancing of the Vision.

To secure an equal balance of vision in the eyes two courses must be followed. First there is the examination of the refraction of the eyes. Under complete cycloplegia, from the efficient administration of atropine, the refraction is worked out by retinoscopy, and glasses are ordered so as to exactly balance the eyes and to bring each to as nearly emmetropia as glasses can. That is a matter of routine,

FIG. 1.—Author's method of securing spectacles. The bows end in large loops just above the meatus. A piece of tape is looped under the nucha, threaded through each loop of the glasses, and tied on the vertex.

but much depends upon its skilful performance. It is evident that the whole determination must rest on the skill and judgment of the surgeon, for subjective methods are useless with children; indeed, they are impossible with an amblyopic squinting eye. The glasses must be worn constantly. It is never too early to begin. Infants under one year will wear glasses successfully. When their eyes are of such a type that glasses help them, they are as appreciative of the benefit as any adult. The wearing of the frames need cause no trouble, for by fixing them on by the method shown in the figure all difficulties are overcome.

The second part of this stage is the adoption of measures to revive the vision of the squinting eye. If the squint has existed for a year or two it is likely that the vision will be reduced seriously, even fixation may be lost. To reawaken the eye to its duties there

is no better practice than that introduced by Darwin in 1778. The sound eye should be bound up for several hours each day so as to compel the use of the squinting eye. It is well to start by the complete occlusion of the sound eye for two or three weeks on end. In some cases the squint can be altered by this measure, as Mackenzie* noted; the fixing eye will become the squinting eye, and the squinting eye the fixing eye. This is a favourable result. Another means of securing continuous exercise of the squinting eye is gained by paralysing the accommodation of the fixing eye by the regular use of atropine. This compels the use of the squinting eye for the examination of near objects. It is only of value when there is some vision in that eye; and it is useful subsequent to complete occlusion, or when this is not well tolerated.

Awakening the Fusion Faculty.

This stage demands great patience, care, and critical judgment to bring into effect. It is an attempt to revive or call into activity the control of the brain over the eyes. The practice has been widely used in recent years, but in its inception it is as old as the preceding measure.

In 1778 there was published a most interesting paper by Dr. Erasmus Darwin,† the grandfather of Charles Darwin. He had a case of alternating squint to deal with, and concluded that the condition was not in any way due to defect of the eyes, but to the control over the eyes, "a depraved habit of moving the eyes." To check this he hit upon the device of the most modern stereoscopic contrivance. A brass gnomon was fixed to the nose of the child by means of a headband; this lengthened the nose some $2\frac{1}{2}$ in., and cut off the fields of vision of the two eyes very considerably. He argued that now the child would use the right eye to see objects on the right side, and the left eye for objects on the left side, rather than turn his head round to see objects on one or other side according to the eye then in use. After a week he concluded there was some improvement in the state of the eyes. Then he proceeded to attempt the fusion of the images seen by the eyes. Before each eye a white-tipped wand was held, and by movements the two wands were placed so as to be seen separately by each eye. "As he viewed these they were gradually brought forwards beyond the gnomon, and then one was concealed behind the other. By this means, in another week, he would bend both his eyes on the same object for

* 'A Practical Treatise on the Diseases of the Eye,' London, 1830, p. 252.

† 'Philosophical Transactions,' vol. lxviii, 1778, p. 86, "A New Case in Squinting."

half a minute together. By the practice of this exercise, before a glass, almost every hour of the day, he became in another week able to read for a minute together, with his eyes both directed towards the same objects. By perseverance in the use of the artificial nose, he acquired more and more the voluntary power of directing both eyes to the same object, particularly if the object was not more than four or five feet from him."

That in brief is the most modern manner of the treatment of the fusion faculty. Javal, a distinguished French oculist, developed the stereoscope for this purpose, making the mirrors adjustable to the angle of the squint. Priestley Smith, of Birmingham, adopted for the same purpose two tubes pivoted in a frame. Now there are many fine instruments, tubular, combined tubes and mirrors, and the most perfect of variable stereoscopes, with sets of pictures that are a delight to the child.

Not only can we set these instruments to fit the angle of the squint, but the intensity of the two pictures can be modified to the known state of the eyes; a dull picture can be shown to the good eye and a bright one to the bad eye, so that the images are balanced or altered in favour of the bad eye. Practice with any form of these instruments must be guided by the surgeon, and his efforts must be seconded by assiduous practice by the parent. At first the effort is directed to getting the child to see the two images simultaneously, and that attained, to the more difficult task of keeping these images in view, even when the angle of the setting of the instrument is reduced to less than that of the squint. When either of these steps is certainly attained there is registered a great advance on the road to recovery, for we have assurance that brain control over the eyes can be reasserted under favourable conditions.

The exact value of the training of the fusion faculty that can be obtained by practice with these instruments is still a matter of debate amongst ophthalmic surgeons. Some believe it is possible to cultivate the faculty to a high grade of activity, so as to secure a reduction in the angle of the squint, even with half an hour's practice in the day. Others, and I include myself amongst these, believe that the influence of any practice must be proportional to its continuity, and that the stimulation of a faculty for a fraction of the visual life of the child cannot undo the vicious effects of its suppression by the squint for the rest of the day. But there is no doubt whatever that the method is of the utmost value in preparing the way for and assuring the success of the next stage of the treatment—operation.

If it were possible to adopt some such scheme as Darwin's "long nose" for continual use, then these measures might have a direct measure of success, but it must be remarked that even Darwin found his little patient discarded his device so soon as his oversight was withdrawn!

Before leaving these two stages in the treatment, emphasis must be laid on the necessity for early treatment if there is to be any real measure and hope of success. Everything depends upon getting the child before the brain control and the vision of the squinting eye are benumbed by disuse. The exercise of the squinting eye by occlusion or cycloplegia of the fixing eye may be begun at the earliest age. The use of stereoscopes may be begun so soon as the child can be amused by pictures, certainly at the age of three years. To leave these measures until the age of six, seven, or eight years of age, in the bare hope that the child may "grow out of the squint," is to render them well-nigh hopeless of success.

Operation.

In considering operation, four points come up for review. (1) The rational basis of such a procedure. (2) The best time for the undertaking. (3) The most reliable technique. (4) The prospects of ultimate success.

The rational basis for operation depends upon what we mean by the "cure of squint." If we have in view no more than the reduction of the deformity, then the rational basis for operation is no more than the objection of the parents or the child to the ugliness of the squint. But if we aim at a real cure our object is to once more put the eyes into such a position that the brain can resume control over their movements and fuse the diverse images it receives from them. That is, we aim at the restoration of binocular vision. Looked at from this point of view, operation is not only reasonable but necessary, and even urgent. For we do by operation permanently what the stereoscope can do temporarily. By the set of the stereoscope we can in effect temporarily correct the angle of the squint, by operation we undo the evil set of the muscles and so permanently correct the squint. In each case we can obtain conditions under which one image may be seen by each eye and carried to the fusion centre. A fixed squint is like an obstacle to the brain. It is something it cannot overcome because of permanent changes set up in the muscles of the squinting eye. In a convergent squint of any duration the rectus internus is found to be shortened and thickened, and the externus is stretched and thinned. These altered states are

obstacles that cannot be overcome by training the fusion faculty; they can only be removed by our active interference. That is the rational basis of operation, the removal of the obstacle to a resumption of brain control.

The best time for operation is again affected by what we want to do. If we only desire to correct the deformity there is no urgency; the matter may be left to any convenient time. But if we aim at restoration of binocular vision, then operation should be advised so soon as we are sure of certain conditions. The effect of the correction of the vision by glasses must be watched; six months is sufficient for this. Meantime, the vision of the squinting eye must be exercised and tests for fusion commenced. If we can secure fair vision in the squinting eye, say $\frac{6}{18}$ or more, and there has been a definite recognition of the two images presented by any form of stereoscope, then the conditions are favourable for operation. We may readjust the tendons with every hope that our successful adjustment will be taken over and kept in order by the brain control. And the earlier this is done the better; in youth the restoration of habit is the easier, and a success is the more to be counted on.

On the other hand, if the child has reached the age of nine or ten years, and the vision of the squinting eye has been reduced to bare fixation or even less, and the attempts to recover the sight of the eye show a poor or no response, then operation can now only be done for cosmetique purposes, our highest aim is lost, and we can now only act as beauty doctors.

There are certain cases that fall into neither of these categories —cases of alternating squint. In many of these there is little or no error of refraction, the squint is altogether due to lack of brain control, and possibly to some disability in the muscle balance even though such cannot be proven. In these cases there is no suppressed vision to be regained, each eye sees well, practice with stereoscopes give poor results, and for these my experience leads me to advise operation at the earliest possible date. I have even operated on children under one year old. And for this reason, when a child squints from birth, the fusion faculty, supposing it to be present, gets no opportunity for development, for it is never brought into action, and in the lack of exercise it is as certain to become lost even as the vision of an eye with a fixed squint. Put the eyes straight by operation, and there is then every stimulus to exertion on the part of the fusion centre. Images of the same object are received from the two eyes, and the conditions are favourable for fusion if the possibility thereof exists.

(*To be continued*).

Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, November the 26th, 1915.

The President, Dr. R. Hutchison, *in the Chair.*

Optic Neuritis, ? due to X-rays.—Dr. Edmund Cautley and Mr. N. Bishop Harman showed a boy, aged 8¾ years, one of three children, the others being healthy, He had had measles in infancy, diphtheria three years ago, and double otorrhœa last June. On July the 22nd he attended hospital for pains in the head of five to six months' duration. The pain was frontal, usually at night and preventing sleep, occasional during the day. He had been treated for ringworm by X-rays one week previously. When he was first seen there was marked neuro-retinitis. Vision, $\frac{6}{6}$. No paralysis. Some uncertainty, almost amounting to incoordination, in right hand, and tendency to point to the right with that hand. Sudden jerking or twisting of the limbs; jumpy but not clumsy. Gait and reflexes normal. July the 29th: Has had one attack of headache and vomiting. Superficial and deep reflexes active. Vision, $\frac{6}{6}$. September the 2nd: Has had no headache or vomiting, except for one sudden attack of pain across the eyes a few days ago. Normal reflexes. Hearing normal. No otorrhœa. Marked swelling and striation of optic discs. Vision, $\frac{6}{6}$. On September the 30th he was admitted as an in-patient. Since then he had had no headache or vomiting. Muscular control had recovered. In thirty-eight days he gained 54 oz. in weight, and, except for the eyes, he was apparently in good health. No focus of infection had been found; there was no tuberculous history, and the Wassermann reaction was negative. The action of the X-rays caused complete baldness, but the hair was growing again. According to the history the pains in the head began before the ringworm was treated.

September the 21st: Chronic optic neuritis in each eye. It is rather more marked in the right eye, the elevation of the disc being about 4 D., exceeding that in the left eye by 1 to 2 D. There is 1 D. of hypermetropia, as measured by retinoscopy, at the macula of each eye. In the left eye there are a few small spots of exudate between the disc and macula. The degree of intensity is more marked in the right eye, but, as far as the age of the neuritis could be judged, there is no appreciable difference between the two eyes. Vision: Right, $\frac{6}{9}$; left, $\frac{6}{5}$. October the 5th: Right swelling only 2 D., disc distinctly clearer; vision, $\frac{6}{12}$. Left eye shows much more swelling; elevation 6 D.; vision, $\frac{6}{36}$. No exudate seen. The eye conditions are not sufficient to determine the primary disorder. October the 12th: Neuritis beginning to subside. Right swelling 2 to 3 D.; vision, $\frac{6}{9}$. Left swelling 5D.; vision, $\frac{6}{18}$ slowly. October the 19th: Right swelling 2 D.; vision, $\frac{6}{9}$. There is now exudate in the macular region, distributed in a roughly radiate fashion. Left swelling 3 D., suspicion of commencing exudate in macular region; vision, $\frac{6}{60}$. October the 26th: Right unchanged. Left slightly less swollen; vision, $\frac{6}{24}$. November the 2nd: Right swelling under 2 D., disc a

fair colour; vision, $\frac{6}{5}$. Left swelling 2 D., disc looks like becoming atrophic; vision, $\frac{6}{36}$. November the 9th: Right swelling diminishing, vessels of new formation clearer; vision, $\frac{6}{6}$. Left disc whitening, shrinking of inflammatory deposit on the disc; some small fresh spots of exudate between the disc and macula, like those seen on September the 21st; vision, $\frac{6}{18}$, attempts. November the 16th: The swelling in each eye disc is 1D. or less. The right disc has a fair colour, but is ragged; vessels of a good contour; vision, $\frac{6}{6}$. Left disc white and ragged; vision, $\frac{6}{24}$. The eyes presented throughout the signs of a pure neuritis. The fluctuation in the degree of swelling, and the changes in the fundus generally, gave no clue to its origin. On no occasion had there been any tenderness on pressure or photophobia.

Case of Friedreich's Disease.—Dr. Edmund Cautley showed a boy, aged 10 years, the seventh of nine living children, two sisters being younger than the patient. Three children were dead. Four years ago he fell about 6 ft. and injured his head. His gait was said to have been affected a month later. He was intelligent and in Standard II.

On admission to hospital his gait was somewhat ataxic, and he walked with his legs wide apart. The knee-jerks were absent, and there was an extensor reflex of the big toes. There was very marked pes cavus, with some equinus. The grasp was stronger on the right side, and there were somewhat claw-like movements on prehension. There was no nystagmus, and the fundi were normal. The boy was somewhat unsteady with the eyes shut. Wassermann's reaction negative. He had improved in general health, had gained weight, and in control of his muscles since admission.

Case of (?) Myositis.—Mr. A. S. Blundell Bankart showed a girl, aged 12 years. She first noticed swelling of right thigh on July the 12th, 1914, and said that it felt "tight" when she sat down. No history of any previous illness. Occasionally had "rheumatic" pains. Had been taking active part in games and training for school sports, but was not conscious of any strain or other injury. Four brothers, aged 14, 10, 5, and 3 years respectively, all quite well. No history of paralysis or myopathy in family. The patient was first seen on July the 14th, 1914. Right thigh and calf obviously larger than left. Swelling rather firm and (?) a little tender on deep pressure. No pain. Circumference of right thigh, $13\frac{1}{2}$ in.; left thigh, 12 in.; right leg, $10\frac{1}{2}$ in.; left leg, 9 in. Musculature of upper extremities and trunk rather poorly developed, but equal on two sides. No atrophy of hand, arm, scapular muscles, or elsewhere. No weakness. All movements of trunk and limbs performed normally. No lordosis or scoliosis. No nystagmus or strabismus. Reflexes normal. Electrical reactions normal. X-ray of right thigh showed nothing abnormal.

During the last seventeen months the condition had remained unchanged. The right thigh and calf had increased in size, but not disproportionately. Also, the swelling was a little softer than it was at first. There was no disability of any kind. The child still occasionally complained of "rheumatism" in the right thigh.

Case of Congenital Word- and Letter-blindness—Alexia Congenita.—Dr. T. R. Whipham (*v.* p. 33).

Case of (?) Juvenile Tabes.—Mr. Sydney Stephenson showed a boy, aged 9 years, first seen on August the 24th, 1915. His sight had been noticed to fail during the last month. The father, when aged 37 years, developed fits,

and had had two such "fits" during the past twelve months. The mother enjoyed good health. Two miscarriages and six children born at term, five of whom were still alive. Patient was the second in the family. On admission: The pupils were equal and active to light. Right vision, $\frac{3}{60}$ and No. 16 J. Left vision, $< \frac{1}{60}$ and $<$ No. 20 J. Both optic discs were pale, but without signs of past neuritis. The retinal vessels were of fair size. No changes in gait. Intelligence quick. No history of pains in legs or arms, or of sphincter trouble. No loss of sensibility in lower limbs or about face. The knee-jerks could not be elicited, even on re-enforcement. No clonus, Babinski's, or Romberg's signs. No personal evidence of syphilis. Wassermann reaction negative. Treatment and progress: Potassium iodide, 5 gr. twice a day. Two weeks later: Right vision, $\frac{5}{36}$ and No. 12 J.; left vision, $< \frac{1}{60}$, and later (October the 11th, 1915) to four doses a day and $<$ No. 20 J. The iodide was increased on September the 7th to three doses a day. When examined on October the 12th last, the condition was as follows: Pupils, 3·5 mm. Both reacted to light, but the right better than the left, and the contraction of the former was much better maintained. Right vision, $\frac{6}{60}$ and letters of No. 6 J; left vision, $< \frac{1}{60}$ and letters of No. 20 J. The retinal vessels appeared to be shrinking. The pallor of the optic discs remained apparently without alteration.

Case of General Tremor and Left Cortico-Spinal Interference. Lesion of the Mesencephalon.—Dr. E. G. Fearnsides.—The patient was a fairly well-developed child, aged 4^3 years. There were no abnormal signs in the heart, lungs, abdomen, or urine. The temperature and the rate of the pulse had been normal throughout. With every attempt at movement a dynamic tremor of the head, trunk, and upper extremities occurred; this was greater in the left upper extremity than elsewhere. Muscular tone was not grossly affected, and there was no muscular wasting. Ocular movements were normal and nystagmus was not present. The pupils reacted normally. The face was somewhat asymmetrical in movement, and there appeared to be some slight right facial weakness. The tongue, on protrusion, came out straight. The ocular fundi appeared normal. Hearing was not affected, and there was no otorrhœa. The knee-jerks were obtained, ankle-clonus was not present, and the plantar response on the right side was flexor, on the left indefinitely extensor. The abdominal reflexes were obtained. The sphincters were relaxed incontinently. The hands and feet were always cold, blue, and tended to be sodden. The patient was intelligent but irritable, and cried when approached. Speech was somewhat jerky and explosive. Under observation she had improved considerably.

Case of Anterior Poliomyelitis affecting the Distal Portion of the Left Upper Extremity.—Dr. E. G. Fearnsides.—The patient was a girl, aged 8 years. At the age of 9 months she suffered from an acute illness which affected the left upper extremity. At the present time she showed a general regression and atrophy of this limb affecting chiefly the muscles supplied by the eighth cervical and first thoracic spinal segments. Movements at the left elbow were paretic, and the joint itself could not be fully straightened. The left wrist was flail-like, and the fingers of the left hand were unaligned. All the small muscles of the left hand were poorly developed. The muscles on the flexor surface of the left forearm were better developed on the outer than the inner side, and than those of the extensor surface. The knee-jerks and ankle-jerks were unaffected, and both plantar reflexes gave a flexor response. The abdominal reflexes were normal.

Case of Polio-encephalo-myelitis.—Dr. Leonard Guthrie.—The patient, a girl, aged 5 years, was taken ill in March, 1914, with sore throat which lasted three days and was followed on the fourth day by measles. The sore throat was attributed to diphtheria, but this diagnosis was doubtful. Ten days later she became unconscious without any convulsions, and sweated profusely. For three weeks she did not speak, and the only sign of consciousness shown was that her eyes would follow a lighted match. She then gradually came round, and six weeks after the commencement of the illness she attempted to speak, but could only say "Dad" and "Mum." Previously she had spoken fluently. The voice was not nasal, and there was no regurgitation through the nose. At the same time her eyes became "turned," and when she tried to sit up she "flopped." Gradual improvement occurred, and by November, 1914, she could stand when supported, and could walk about the room holding on to chairs. She could now say any words and express herself distinctly, but speech was slow and drawling. Since November, 1914, she had made but little progress.

Condition on admission (November the 1st, 1915): A well-nourished child. The face lacks expression, but intelligence is not defective. Eyes: There is marked internal strabismus of the right eye. The left eye is also at times diverted strongly inwards. Pupils are equal, reaction, discs and fundi are normal. No paralysis of other cranial muscles, but slight weakness of lower left face. Speech is slow and hesitant, but articulation is clear. She is mostly taciturn, but at times talks volubly and to the point. Upper extremities: Some quasi-voluntary "pawing" movements are noticeable in the right arm, and also at times there are coarse involuntary tremors on both sides, but voluntary movements are fairly well co-ordinated. The muscles are not wasted nor weakened. A slight degree of hypotonia is present in fingers and wrist. There is no rigidity, and the arm-jerks are not exaggerated. The involuntary movements have decreased considerably since admission to hospital. Lower extremities: Wasting and rigidity are absent, and also hypotonia. Knee-jerks are absent on both sides. Ankle-clonus is absent. Plantar response is extensor (Babinski type). Equilibrium: She can stand alone but sways slightly in all directions, though chiefly backwards after a few moments. Gait is halting and unsteady, and the right leg is often abducted at the hip in order to secure a wider basis. She cannot walk alone for more than a few steps without swaying backwards or from side to side, and would frequently fall if not supported.

Single Pelvic Kidney.—Dr. J. D. Rolleston showed a specimen from a mentally defective boy, aged 14 years, who died of septic scarlet fever on the eleventh day of disease. There was a trace of albumin in the urine during the nine days that he was in hospital, but there were no other renal symptoms. Post mortem no kidneys were found in the usual situation, but on the right side and within the brim of the pelvis was a single kidney, lying in apposition to the posterior wall of the bladder. Its shape was irregular and by no means reniform. The surface was lobulated. The organ measured $3\frac{1}{4}$ in. long by $1\frac{3}{4}$ in. broad at its upper part and $2\frac{5}{8}$ in. in its lower part, and 1 in. thick. The weight was 4 oz. The hilus was situated anteriorly, and from it issued a single ureter, considerably dilated and hypertrophied, which measured $7\frac{1}{2}$ in. long, $\frac{1}{2}$ in. broad close to the kidney, and 1 in. broad at its widest part $1\frac{1}{4}$ in. above the bladder. At the lower end it became narrow again, and the lumen of the vesical end barely admitted a pin's head. No trace of a left kidney or ureter could be found. There was no malformation of the genital organs nor other obvious abnormality.

Polydactyly and Deformity of the Right Leg.—Dr. Edmund Cautley showed a specimen from a girl, aged 6 months, who weighed only 6½ lb. three days before death from zymotic enteritis. She was the fifth child, and her mother had had one miscariage. There was no family history of deformity. The right foot and leg showed the following conditions: The leg was shortened and curved, and the foot had seven toes. On the inner side of the great toe were two toes, identical in appearance with normal second and third toes. The second and third toes were closely united, almost to the proximal end of the terminal phalanges. Similarly, the skiagram showed metatarsals and phalanges of the extra toes practically identical with those of the normal second and third toes. There was no fibula, and the tibia was very much curved. The left foot closely resembled the right in appearance, presenting similar extra toes, but united up to about the middle of the second phalanges. The normal second and third toes were also united for about the same extent.

Congenital Hydronephrosis.—Dr. E. C. Williams showed a specimen from a male infant, aged 6 months, admitted to hospital as a case for operation. On admission there was marked intestinal peristalsis. The ureters could be felt on either side, and the right one resembled an intussusception. There was almost complete suppression of urine. Death took place forty-eight hours after admission. Both ureters were the size of the small intestine, and the bladder was much hypertrophied. There was no demonstrable food in the urethra to cause obstruction.

Congenital Syphilis.—Dr. C. O. Hawthorne showed specimens from a boy, aged 1 year 7 months. He had been in good health till July, 1915, when he had a "stroke" affecting the left side. On admission to hospital in November, 1915, he had no physical signs beyond considerable enlargement of the liver, and with his anæmia (Hb. 50 per cent., reds 3,240,333, whites 19,600, with relative excess of lymphocytes), and a positive Wassermann test.

There was considerable cystic formation in the lower right parietal cortex, extending deeply. There was also evidence of disease in liver, kidneys, and lungs, and an adherent thrombus in the left ventricle.

Abstracts from Current Literature.

Acute Infectious Diseases.

Diphtheria in the Metropolitan Asylums Board Hospitals (*'M. A. B. Report,'* 1914).—6591 cases were admitted in 1914, as compared with 5076 in 1913 (*v.* British Journal of Children's Diseases, 1915, xii, *p.* 18). Exclusive of purely bacteriological cases, the percentage mortality was 8·2. The total percentage mortality at all ages was 8·9 for males and 7·5 for females. Under 1 year the percentage mortality was 36·6 for males and 26·7 for females. On 266 tracheotomy, on 53 intubation, and on 20 both operations were performed, among whom there were 93, 5, and 8 deaths respectively. The percentage error in cases admitted was 11·4. Among 919 wrongly certified as diphtheria were 633 of tonsillitis, 72 of

laryngitis, 11 of rhinitis, and 17 of broncho-pneumonia; 27 had no obvious disease, or were not diagnosed. Paralysis occurred in 8·76 per cent, albuminuria in 23·30 per cent., otitis in 4·07 per cent., serum rashes in 32·94 per cent., joint pains in 4·93 per cent., and abscesses at the injection site in 0·53 per cent. 288 cases, or 4·65 per cent., contracted scarlet fever; 50, or 0·80 per cent., chicken-pox; 26, or 0·42 per cent., whooping-cough; and 18, or 0·29 per cent., measles. J. D. Rolleston.

Nasal diphtheria and its complications (*'Riv. di Clin. Pediat.,'* 1915, xiii, *p.* 448).—**G. F. Randegger** reports the case of a boy, aged $3\frac{1}{2}$ years, who, after an attack of measles from which he rapidly recovered, began to suffer from nasal obstruction with a muco-purulent discharge mixed with blood, which lasted two months and was complicated with serious nervous symptoms, viz. paralysis of the palate, orbicularis palpebrarum, and muscles of the neck and trunk, strabismus, paresis of the lower limbs and anal sphincter, absence of deep reflexes, and diminution of sensation to painful stimuli. There followed a condition of profound depression, progressive somnolence, tremors of the limbs, contracture and hypertonus, more marked in the left limbs, and left facial paralysis, Babinski and Kernig's signs. Loeffler's bacillus was found. The case is of interest owing to the rarity of the hemiplegic form of diphtheritic paralysis which must be attributed to a diffuse meningo-encephalitis of toxic origin supervening on an ordinary post diphtheritic polyneuritis, and situated mainly in the Rolandic area and especially in its two lower thirds. Vincent Dickinson.

The use of the Schick test in a children's institution (*'Boston Med and Surg. Journ.,'* 1915, clxxiii, *p.* 427).—**H. Linenthal** and **S. H. Rubin.**—Of 126 children in a Jewish Home, aged from 5 to 16 years, 36 were found susceptible to diphtheria and 90 immune. 750 units administered to the former produced an immunity which did not last over 4 weeks in 50 per cent., in several lasted 8 weeks, and in 6 persisted after 5 months. With the exception of these 6 children and of 1 child who gave a negative reaction the first time and a positive reaction the second time, the results of two tests 5 months apart were uniform. The writers regard the test as of great value in determining susceptibility to the disease, and thus indicating who should and who should not receive prophylactic injections of diphtheria antitoxin. J. D. Rolleston.

Observations on the intracutaneous reaction of Schick (*'Journ. Amer. Med. Assoc.,'* 1915, lxv, *p.* 1010).—**R. D. Moffett** and **A. C. Conrad** give the results obtained in 455 infants and children in whom the Schick test for diphtheria was employed. The evidence thus obtained confirms the value of the reaction. (*Vide* British Journal of Children's Diseases, 1915, xii, *pp.* 243, 244.) T. R. Whipham.

Scarlet fever in the Metropolitan Asylums Board Hospitals (*'M. A. B. Report,'* 1914).—22,066 cases were admitted in 1914, as compared with 15,010 in 1913 (*vide* British Journal of Children's Diseases, 1915, xii, *p.* 19). The mortality was 1·4 per cent. The percentage error of diagnosis was 5·3. Among 1227 wrongly certified as scarlet fever were 143 of German measles, 31 of chickenpox, 28 of lobar pneumonia, 250 of tonsillitis, and 288 of erythema; 276 had no obvious disease and were not diagnosed. The commonest complications were otitis (8·10 per cent.), albuminuria (6·97 per cent.), secondary adenitis (4·78 per cent.), rheumatism

(2·51 per cent.), and nephritis (2·38 per cent.). 379 cases, or 1·79 per cent., had relapses; 431, or 2·05 per cent., contracted diphtheria; 368, or 1·83 per cent., chickenpox; 125, or 0·59 per cent., measles; and 117, or 0·55 per cent., whooping-cough. J. D. Rolleston.

Postscarlatinal rheumatoid arthritis in a child (*'Arch. de Méd. des Enf.,'* 1914, xvii, *p.* 603).—**Savariaud** and **Chapotel.**—A boy, aged 11 years, without rheumatic antecedents, in convalescence from an ordinary attack of scarlet fever, developed subacute arthritis accompanied by deformity, wearing away of the bony extremities, and deviation of the fingers, without ankylosis properly speaking. Improvement took place from purely local treatment. The writers allude to three other published cases occurring in adults in whom rheumatoid arthritis had followed an attack of scarlet fever in childhood. J. D. Rolleston.

Measles in the Metropolitan Asylums Board Hospitals (*'M. A. B. Report,'* 1914).—770 cases were admitted in 1914, as compared with 3400 in 1913 (*v.* British Journal of Children's Diseases, 1915, xii, *p.* 21). The relatively high mortality (9·1 per cent.) was due to the fact that admissions are still limited to the children of the poorest classes and to urgent and necessitous cases recommended by medical officers of health. Among 45 wrongly certified as measles were 17 of German measles, 7 of erythema, and 6 with no obvious disease. The commonest complications were broncho-pneumonia (16·19 per cent.), otitis (8·29 per cent.), albuminuria (3·34 per cent.), and enteritis (0·93 per cent.); 21 cases, or 2·81 per cent., contracted diphtheria; 10, or 1·33 per cent., chickenpox; and 7, or 0·93 per cent., whooping-cough. J. D. Rolleston.

Immunisation against measles (*'Arch. of Ped.,'* 1915, xxxii, *p.* 503).—**C. Herman,** convinced from a large number of personal observations that infants under 5 months were utterly immune to measles (*vide* British Journal of Children's Diseases, 1915, xii, *p.* 246), inoculated 40 infants from 2½ to 5 months old with nasal mucus taken from otherwise healthy children twenty-four hours before the measles eruption appeared. He assumed that, as the infant at that age was not absolutely immune, direct inoculation would convert a temporary into a more or less permanent immunity. The inoculations were made by gently applying swabs on which the mucus was collected to the nasal mucous membrane. The majority of the infants showed no distinct reaction. Fifteen had a rise of temperature varying from 100° F. to 101° F. between the eighth and the fourteenth days. In a few cases a small number of spots were noted on the face and body between the fourteenth and eighteenth days. Of the 40 cases inoculated, 4 over 1 year have since come in intimate contact with cases of measles and have not contracted the disease. Another 2 were re-inoculated at the age of 21 and 23 months respectively, with negative results in each case.
J. D. Rolleston.

Rubella in Children (*'Arch. de Méd. des Enf.,'* 1915, xviii, *p.* 293).—**J. Comby** gives short histories of 132 personal cases: 69 were boys, 63 girls. Rubella is rare below 2 years (5 cases), and above 15 (12 cases). It is most frequent between 2 and 15, and especially 5 and 10. It occurs in small epidemics, which are most frequent in spring and summer. Its contagiosity is less than that of measles. Relapses are exceptional. Second attacks may often be explained by errors in diagnosis. The incubation period is

very long. Comby has had cases in which it has been 16, 17, 18, and even 20 days. In 72 cases the eruption was morbilliform, in 26 scarlatiniform, and 26 mixed. The scarlatiniform variety is not a distinct or fourth disease, as Dukes claims; it is merely a variety of rubella that may be produced by either of the other two forms, and may in turn give rise to them. The face has often (35 cases) a crimson appearance, the intensity and persistence of which are characteristic, and contrast with the pallor of the eruption on the rest of the body. The rash rarely lasts more than 1 or 2 days. Desquamation is absent or slight. Enlargement of the glands is not constant. It was present in 70 of the 132 cases. The prognosis is favourable. There are no complications. A week's isolation, as a rule, suffices.

J. D. Rolleston.

A case of hæmorrhagic chickenpox (*'Canadian Med. Assoc. Journ.,'* 1915, v, *p.* 610).—**D. G. Campbell** records a case in a previously healthy female infant, aged 5 months. A few spots first appeared on February 25. Two days later the temperature rose to 102·2° F., but fell to normal in twenty-four hours. On March 2 it rose again to 102° F. and remained up till shortly before death. On March 3 the eruption became hæmorrhagic, the pustules forming the centre of a purple area ¼ in. in diameter. Slight discharge of blood from the vagina occurred at the same time, and at intervals throughout the morning there was epistaxis. In the evening sharp hæmorrhage occurred from the mouth and nose, fully 6 oz. being lost. At 9 a.m. on March 4 the child had a normal stool with a good deal of tarry blood, but no fresh hæmorrhage. Death took place 2½ hours later, 27 hours from the onset of the hæmorrhagic symptoms. Post mortem a few fine subperitoneal, subpleural, and subpericardial hæmorrhages were found as well as a few hæmorrhages in the gastric mucosa and at the base of the brain. Both middle ears and external auditory canals were filled with clotted blood.

J. D. Rolleston.

Whooping-cough in the Metropolitan Asylums Board Hospitals (*'M. A. B. Report,'* 1914).—736 cases were admitted in 1914 as compared with 1044 in 1913 (*vide* British Journal of Children's Diseases, 1915, xii, *p.* 23). The fact that only poor children were admissible probably accounted for the high mortality rate of 11·8 per cent. Among 30 wrongly certified as whooping-cough were 10 cases of bronchitis, 3 of broncho-pneumonia, 2 of general tuberculosis, and 11 with no obvious disease. The commonest complications were broncho-pneumonia (11·47 per cent.), otitis (6·52 per cent.), convulsions (2·69 per cent.), albuminuria (0·89 per cent.), and stomatitis (0·56 per cent.). Thirty six cases, or 4·04 per cent., contracted measles; 15, or 1·68 per cent., scarlet fever; 10, or 1·12 per cent., diphtheria; and 14, or 1·57 per cent, tuberculosis.

J. D. Rolleston.

A protective therapy for mumps (*'Amer. Journ. Dis. Child.,'* 1915, x, *p.* 99).—**A. F. Hess,** during an epidemic of mumps in an infant asylum, inoculated seventeen children, aged from 1½ to 5½ years, with the blood of those who were just recovering from or had recently had mumps. Whole blood was used after being aspirated in the usual way, and was injected at once intramuscularly without there being any need to add an anti-coagulant. There was no rise of temperature or local reaction, and none of the seventeen children contracted the disease, though in the wards where the children were not protected fully a third or even a half were attacked.

J. D. Rolleston.

Acidosis in a case of typhoid fever (*'Dub. Journ. Med. Science,'* 1915, II, *p.* 130).—**A. R. Parsons** reports the case of a boy, aged 11 years, who was rickety almost from birth, and was admitted to hospital as probably a case of Friedreich's ataxia. He had difficulty in walking, and swayed from side to side. There was no nystagmus, and the knee-jerks were only slightly exaggerated. On the third morning after admission a marked change was noticeable. He was stupid, cold, and his hands were bluish; he also vomited. It was thought that he was suffering from acidosis, and on examination of the urine an amount of aceto-acetic acid and acetone was discovered. Next evening his respirations were laboured. He was cold, barely conscious, and the clinical picture was like that of a boy in diabetic coma. The fundus was examined and found to be perfectly normal. Next morning, a sweet odour from the breath was noticed. On free administration of alkali by the mouth the lad gradually recovered, and after some days the aceto-acetic acid and acetone disappeared from the urine. An attempt was made to get him to walk, but he was very weak on his limbs. After three or four weeks in hospital the temperature, which was previously normal, rapidly rose, and then he died. In the same ward there had been three cases which developed typhoid fever, and when the post-mortem examination was made, evidence of typhoid was found. There was marked enlargement of the solitary gland and the typhoid bacillus was isolated from the spleen. There were two points of interest in the case, viz., for a boy of eleven who had never taken vigorous exercise, the heart was very large and his liver was also enlarged. No explanation of the acidosis in the first instance was forthcoming. In the second instance it might have been a febrile acidosis. J. Allan.

Undulant fever in children (*'La Pediatria,'* 1915, XXIII, *p.* 561).—**O. Cozzolino.**—Besides the usual infection by goat's milk, bites from insects, contamination through the respiratory organs of "carriers," and through the mother's milk must be taken into account. The prognosis is good as a rule. Cozzolino recommends vaccination with cultures of Bruce's micro-organism, intravenous injections of 1 per cent. solution of corrosive sublimate —1 to 2 c.c.—alternate days, and intramuscular injections of 10 per cent. electrargol. Vincent Dickinson.

Epidemic cerebro-spinal meningitis (*'Lancet,'* 1915, I, *p.* 964).—**F. E. Batten** briefly discusses experimental work, epidemiology, clinical features, diagnosis, and treatment of this disease. The methods of treatment dealt with are: (1) Lumbar puncture; (2) intrathecal injection of serum; (3) treatment with soamin; (4) vaccine treatment. J. Allan.

Cerebro-spinal fever (*'Practitioner,'* 1915, XCIV, *p.* 831).—**E. Milligan,** when house-physician at Belfast Fever Hospital, saw 300 cases of this fever and describes his experiences. About 79 per cent. were under 20 years of age. Incubation period seems to be about three days. The onset is sudden, with headache, vomiting, followed by stiffness of the neck and back and legs, with rapid unconsciousness. Ninety per cent. of the cases began in this way. The lowest temperature noted was 96° F. and the highest 107·6° F. The pulse was slow in the rapidly fatal cases. Herpetic and purpuric rashes are the commonest. Herpes was most common on the lips and came out usually before the fifth day. Desquamation occurred only twice in 255 cases. In some cases the patient would be delirious and suddenly become sensible. Hyperæsthesia was marked. A frequent position was to be curled up in bed. Hydrocephalus was present in a large number of children who lived long

enough. The skin was cyanotic and the circulation sluggish. The respirations in the acute cases were very rapid; bronchitis was present in nearly all the acute cases. The glands were generally enlarged. Retention of urine was frequent. The mouth and throat were usually foul. Emaciation was rapid. The points of importance in diagnosis are sudden onset with headache and vomiting, rigidity of the neck, Kernig's sign, delirium, and coma. The only treatment of real value is the injection of Flexner and Jobling's serum intraspinally. Not more than 35 c.c. should be given at one dose. The death-rate without serum was 85·2 per cent., with it 26·6 per cent. The serum should be given early. Prognosis: Out of 74 children under five years 61 died. The duration of the disease is generally under eight days. Those under one year have less chance of recovery than those above that age. F. R. B. Atkinson.

Note on a case of cerebro-spinal meningitis (*'Lancet,'* 1915, I, *p.* 967).—**H. J. Alford** reports a fatal case of cerebro-spinal meningitis in a boy, aged 9 years, notified to him on March 2, 1915. On making inquiries, he found that the boy's elder brother had returned from Deal (on his discharge from the Army) on February 13. He complained of feeling ill, with pains in his head and limbs, and he went to bed, sleeping in the same bed as his younger brother already mentioned. In about a week he felt quite well and returned to work. On March 31, the author took a swab from his naso-pharynx and the laboratory report was only "meningococcus present." The case is interesting as showing, that although the germ will live a few hours on the swab, it may do so for at least two months in the naso-pharynx. The organism, therefore, possesses considerable tenacity.
J. Allan.

Prophylactic vaccination against epidemic meningitis (*'Journ. Amer. Med. Assoc.,'* 1914, LXIII, *p.* 2126).—**J. H. Black,** from experiments with meningococcic vaccine upon students, concludes that prophylactic vaccination produces a high degree of immunity in most cases, this immunity being demonstrable at the end of two years. It seems a justifiable conclusion that most persons prophylactically vaccinated may safely consider themselves immune for at least two years. Exceptions to this will, of course, be found. Some individuals may show an actual increase in immune bodies at the end of one year over those demonstrable soon after vaccination. Fixation occurred with the serum of the positive control who has recovered from meningitis, but this fixation did not reach as high dilutions as did that of some of those vaccinated. This has previously been found also in some others recovered from the disease. Experimental evidence warrants us in concluding that prophylactic vaccination is a measure of the greatest value in the control of epidemic meningitis. T. R. Whipham.

Epidemic poliomyelitis (*'Journ. State Med.,'* 1915, XXIII, *p.* 243).—**W. E. Henderson** gives his experiences and impressions of an epidemic in Westmorland. Of a total of 51 cases, 29 occurred in children under 9 years of age. Viewing the epidemic as a whole, the most universal and striking feature in the clinical picture was the severe pain complained of on passive movements of the affected limbs. The next greatest common symptom was the complaint of weariness, associated in many cases with drowsiness. Gastro-intestinal symptoms were almost entirely absent. Children, adolescents, and adults, otherwise the most robust were attacked, not a few of them in wealthy homes. No one who has been through an epidemic can

quite forget the sight of strong athletic adults mortally stricken with this disease. The victim fights for breath as the centres governing respiration become involved and perishes from respiratory failure while the mind remains clear to the end. And then there is the pathetic wreckage that poliomyelitis leaves in its wake. Of the 51 cases, 21 are permanently paralysed in groups of muscles in one or more limbs. Regarding administrative action the author thinks that however hazy our ideas may be as to the epidemiology of this disease, it is wise in the public health interest to look upon poliomyelitis as a contagious disease and to treat it as such. The measures adopted were as follows: Notification to the central authority; isolation either at home or in hospital; disinfection was carried out in the homes; children from infected homes were excluded from school; the school teachers were supplied with a leaflet of instructions; the doctors practising in the county were supplied with information as to the main features of epidemic poliomyelitis as distinguished from cerebro-spinal meningitis, and they furnished reports on special clinical forms supplied to them; the disease was made a notifiable one within the affected areas. The County Clinical Club (composed of the practising doctors) met to discuss the disease in all its aspects. The use in abortive cases and contacts of a nasal and throat spray containing a solution of potassium permanganate was advocated. J. Allan.

A third outbreak of epidemic poliomyelitis at West Kirby (*'Lancet,'* 1915, i, *p.* 67).—**G. Jubb** gives notes of four cases, and briefly discusses the distribution of cases and the possible sources of infection. J. Allan.

A second attack of infantile paralysis (*'El Siglo Med.,'* 1915, lxii, *p.* 530).—**F. Sanz** records a case in a woman, aged 37 years, who had her first attack at the age of one year, when her left leg and foot muscles were paralysed and atrophied, and the second attack at the age of fifteen, when her right leg and foot were involved. Both attacks were characterised by rapid onset, acute course, and general symptoms of infection. At present the patient has complex loss of motor power in both legs and feet, with flaccidity and atrophy of the paralysed regions. The feet are fixed in a position of marked equino-varus, and are intensely cyanotic. The knee-jerks and plantar reflexes are absent. Sensation is normal. J. D. Rolleston.

Infantile paralysis of the small muscles of the hand (*'Med. Journ. of Australia,'* 1914, i, *p.* 347).—**W. F. Litchfield.**—A girl, aged 12 years, was suddenly taken ill with fever, and two days later lost the use of her right hand. When seen by Litchfield ten weeks later the thenar and hypothenar eminences were wasted, the fingers could not be moved except for very slight flexion at the tips, the wrist could neither be flexed nor extended, pronation and supination of the forearm was very weak; flexion of the forearm was strong, but extension weak; the deltoid and muscles of the shoulder girdle were not affected. There were no sensory changes. Three months after the onset the only improvement noticed was some increase of power in the triceps. J. D. Rolleston.

Acute poliomyelitis with involvement of the abdominal muscles (*'Rev. Med. Arg.,'* 1914, xxii, *p.* 1021).—**A. Gareiso** records four cases in children aged from two months to three years in which monoplegia or paraplegia was associated with paralysis of the abdominal muscles of the right or left side simulating a ventral hernia. J. D. Rolleston.

Anterior poliomyelitis with multiple paralyses including the hitherto unrecorded involvement of the left diaphragm (*'Boston Med. and Surg. Journ.,'* 1915, CLXXIII, *p.* 429).—**P. Sylvester.**—A boy, aged 4 years, developed infantile paralysis of both legs and simultaneously paralysis of the left half of the diaphragm. The latter condition was not recognised at first, as the child developed pneumonia in which the lung expanded and pushed the diaphragm down and the resulting dulness masked any signs referable to the diaphragm. It was a long time before complete resolution took place. The diaphragm was then pushed up by the gas in the intestine and the true condition was revealed. **Smith Ely Jelliffe** (*ibid., p.* 525) points out that the complete and unilateral involvement of the diaphragm in poliomyelitis has been described, and refers to the description and literature in Jelliffe and White's 'Diseases of the Nervous System,' p. 312.

J. D. ROLLESTON.

Treatment of infantile paralysis (*'Journ. Amer. Med. Assoc.,'* 1915, LXIV, *p.* 2118).—**R. W. Lovett** gives an analysis of the Vermont epidemic of 1914, consisting of 149 cases. He finds that paralysis of leg muscles is much more frequent than that of arm muscles. Abdominal paralysis existed in more than half of all the cases, and the muscles of the spine were affected in more than a quarter. The cases of abdominal paralysis were all symmetrical except two. This paralysis may occur as the only one in the entire muscular system, but when it is associated with paralysis of other parts the association is always with leg muscles. The tibialis anticus and gastrocnemius were the only leg muscles found to be affected by themselves, without paralysis occurring elsewhere in the body. Deltoid paralysis may occur alone in the arm. The investigation of paralysis of the arm showed (1) that the paralysis was most frequent and most severe at the shoulders, and diminished in frequency from the shoulder to the hand; (2) that the left arm was very much more frequently affected than the right; (3) that arm paralysis which is strictly regional is more severe than arm paralysis which exists in combination with more general paralysis. With regard to paralysis of the muscles of the lower limb the following facts were observed: (1) The paralysis was more frequent at the hip, and diminished in frequency toward the foot; (2) the paralysis was lightest in the hip, next lightest in the thigh, and severest in the lower leg; (3) the right and left leg were affected about equally. As regards treatment, stress is laid on the possible ill-effects of over fatigue and the over use of massage on returning muscular function.

T. R. WHIPHAM.

Dermatology and Syphilis.

Elephantiasis in a child, aged 12 years (*'La Med. de los Niños,'* 1915, XVI, *p.* 105).—**C. S. de los Terreros.**—The case was of interest for two reasons: (1) Elephantiasis is not frequent in children. (2) It is relatively rare in Europeans. The patient was a native of Toledo in Spain. The whole of the left lower limb, the external genitals, and a crescentic area above them and the groins, with its concavity upwards, were affected. There was also a slight degree of œdema of the right leg. Examination of the blood showed a neutrophile polynucleosis, but no filaria embryos. The urine was negative The boy had undergone an operation for phimosis about three years previously and some micro-organisms had probably obtained entrance

through the wound and given rise to lymphangitis, which was succeeded by sclerosis and atrophy. Considerable improvement resulted from the treatment, which consisted in keeping the limb horizontal and firmly bandaged, except when it was massaged from the extremity upwards for half an hour twice daily, in electrical vibratory massage twice a week, and in increasing doses of iodide until symptoms of iodism were well marked. The electrical massage was subsequently replaced by injections of fibrolysin every two days.

J. D. Rolleston.

Pellagra in childhood (*'Am. Journ. Med. Sci.,'* 1915, cxlix, *p.* 859).—**F. C. Knowles** reviews the literature (*v.* British Journal of Children's Diseases, 1912, ix, *p.* 328, and 1913, x, *p.* 40) and records a case in a boy, aged 5 years, admitted to hospital for an eruption on his face and hands. He had a marginated, dull red dermatitis on the hands, face, and rims of the ears. He had had several attacks of this dermatitis, beginning in early spring and lasting through the summer. The tongue was denuded of mucous membrane and red. The bowels moved about three times daily. The patient was very thin, small for his age, and exceedingly nervous. The knee-jerks were diminished, the gait sluggish and ataxic, speech hesitating, pupillary reaction lessened, and there was decided hebetude. The urine was negative except for an excess of indican. The writer's conclusions are as follows: Pellagra is rather frequent in childhood. In endemic regions about 10 per cent. of the cases occur in children. It is rare under two years of age. The disease is about equally common in the two sexes in childhood. The negro is far less susceptible than the white, especially in early life. In endemic neighbourhoods in about one half of the cases two or more members of one family are attacked. In a considerable number of cases pellagra follows shortly after one of the exanthemata, especially measles. In the South pellagra frequently develops in children with hookworm. The skin eruption in childhood is quite marked, while in a considerable number the gastro-intestinal and nervous symptoms, particularly the latter, are mild The death-rate in children was formerly rather high, but now the disease occurs in a much milder form and the mortality is low. Heredity plays no part in pellagra except that by lowering the general resistance of the child the disease is more readily contracted. The typical eruption or an accurate history of its former occurrence is essential in making a correct diagnosis.

J. D. Rolleston.

On the significance of herpes in pneumonia and pneumococcal infection (*'Thèses de Lyon,'* 1913–14, *No.* 130).—**J. Perrot** regards the febrile herpes occurring in pneumonia or any other pneumococcal infection as the localisation of the pneumococcus in the skin or mucosæ. Bacteriological examination of the contents of the vesicles clearly shows the presence of the pneumococcus, even when it is not suspected as the causal organism of the infection. Febrile herpes often constitutes the principal manifestation of pneumococcal infection, the signs of pneumonia being ill-marked or almost entirely absent. The same holds good of a certain number of cases of pneumococcal septicæmia, stomatitis, angina, and meningitis. The infection of the skin and mucosæ takes place by the blood-stream. Among the illustrative cases three occurred in children aged from 4 to 10 years, two of whom were suffering from pneumonia with labial or lingual herpes, and one from pneumococcal meningitis with labial herpes. In each case pneumococci were found in the herpetic vesicles.

J. D. Rolleston.

The occurrence of diphtheria bacilli in the vesicles of herpes in diphtheria (*'Münch. med. Woch.,'* 1915, LXII, *p.* 396).—**Rall.**—Herpes facialis occurs in diphtheria with a frequency varying from 4·2 per cent. (Rolleston) to 6·96 per cent. (Reiche). Rall examined ninety-four cases of diphtheria with herpes facialis and found diphtheria bacilli in twenty-six patients or 27·65 per cent. The bacilli were more frequently found in the severe cases than in the moderate, and in the moderate than in the mild. The infection of the vesicles probably does not take place through the blood or lymph, for in spite of frequent examinations Rall rarely found the bacilli in the blood, but from contamination of the skin by the discharges from the mouth and nose. J. D. ROLLESTON.

Favus in two families (*'Journ. Amer. Med. Assoc.,'* 1915, LXV, *p.* 1362).—**J. E. Lane** reports the occurrence of favus in two Italian families owing to neglect and failure to apply for treatment. In one instance five out of nine children were affected, and in the other all five. Both families had been resident in the States about twenty years, so the disease was not a recent importation. T. R. WHIPHAM.

Vaccine treatment of ringworm of the scalp (*'Journ. Amer. Med. Assoc.,'* 1915, LXV, *p.* 224).—**A. Strickler** advocates the use of a vaccine prepared from infected hairs in cases of tinea tonsurans. Five injections of vaccine at intervals of five days are given, beginning with 0·5 c.c. and rising to 2 c.c. This is followed by local treatment with oil of cade and olive oil, equal parts, twice a day for two weeks, together with 1·5 c.c. of the vaccine every six days, and subsequently by an ointment of 20 gr. of precipitated sulphur to 1 oz. of petrolatum once a day for two weeks. Three to four months' vaccine treatment usually suffice for a cure. T. R. WHIPHAM.

Acute encephalitis with presence of the treponema in the lesions in heredo-syphilis (*'Arch. de Méd. des Enf.,'* 1915, XVIII, *p.* 330).—**Péhu** and **Gardère.**—A male infant, aged 2 years, whose mother had contracted syphilis four years previously, suddenly developed right hemiplegia. No improvement followed mercurial treatment, and death took place within three weeks. The autopsy showed arteritis of the arteries at the base and of the left sylvian artery and atrophy of the left lobe of the cerebellum. On serial section, numerous foci of cortical encephalitis were seen which, on microscopical examination showed a large quantity of treponemata. Most of the vessel walls showed no lesions, but round the vessels there was a sheath of leucocytes which definitely proved that the condition was due to inflammatory lesions and not to ischæmic softening. J. D. ROLLESTON.

Gumma of the tongue with a space between the upper central incisors in heredo-syphilis (*'Ann. des Mal. Vénér.,'* 1915, X, *p.* 257).—**Gaucher, Bizard** and **Bralez.**—A girl, aged 9 years, presented a typical ulcerated gumma in the middle of the dorsum of the tongue. The sides of the organ were fissured and the upper central incisors were widely separated from each other. Eighteen months previously she had had double interstitial keratitis which had been successively treated by hypodermic injections, consisting probably of the soluble salts of mercury. Her mother had not been ill, but prior to the birth of her two children, of whom the patient was the younger, she had had a miscarriage at two months. The eldest girl showed dystrophic stigmata, precocious obesity, low forehead, high palate, and a fissured tongue. She had also had interstitial keratitis when

she was 3 years old. Wassermann's reaction was positive in the two children, but negative in the mother. The father probably transmitted the infection, but he could not be examined. The gumma of the tongue rapidly cicatrised after treatment with subcutaneous injections of benzoate of mercury and potassium iodide internally. J. D. Rolleston.

Cholesterin in the blood serum in congenital syphilis (*'La Pediatria,'* 1915, xxiii, *p.* 161).—**S. Cannata** by using Grigant's colorimetric test, which, although slightly inexact, has the advantage of necessitating the use of a small quantity of serum, 2 c.c., estimated the amount of cholesterin in the blood serum of thirteen healthy children and found that it increased according to age, and after the sixteenth month equalled that of the adult. In twenty-six children, the subjects of congenital syphilis, between the ages of forty days and ten years he found that the cholesterin content was extremely variable, in some cases being equal to that of healthy subjects, but more frequently being less. In a few cases there was a true hypo-cholesterinæmia, but hyper-cholesterinæmia never occurred. There was no relation between the amount of cholesterin and the syphilitic manifestations, nor between it and the presence or absence of the Wassermann reaction. Vincent Dickinson.

The diagnostic importance of Sisto's sign (*'Tesis de Buenos Aires,'* 1914).—**R. Repetto** records 6 cases in children, aged from 7 months to $2\frac{1}{2}$ years, to illustrate the importance of Sisto's sign, *i. e.*, persistent crying, in the diagnosis of congenital syphilis (*v.* British Journal of Children's Diseases, 1908, v, *p.* 266, and 1911, viii, *p.* 284). In some of his cases it was the only symptom, while in others it was accompanied by other evidence of congenital syphilis. The characteristic features of the syphilitic cry are as follows: (1) Absence of ordinary causes, such as hunger, colic, or acute painful affections. (2) Time of its occurrence—usually the first 4 months of life; exceptionally it develops later. (3) Persistence. (4) Aggravation on movement or on pressure on the epiphyses of the long bones. (5) Disappearance under specific treatment only. J. D. Rolleston.

Epitrochlear adenitis in the diagnosis of heredo-syphilis in the infant and child (*'Le Nourrisson,'* 1915, iii, *p.* 193).—**Mlle. M. Reichenecker** examined 390 children, aged from a few weeks to fourteen years, in Marfan's service for the presence of epitrochlear adenitis. Her conclusions are as follows: I. Epitrochlear adenitis forms part of the general polyadenitis of children. It is the rarest form of peripheral adenitis. It indicates general infection of the organism much more than a reaction to a local process. Syphilis is much the most frequent cause; tuberculosis comes next. II. (1) Epitrochlear adenitis is not pathognomonic of heredo-syphilis. (2) It is not constant in heredo-syphilis (in Reichenecker's cases it was present in only 60 per cent.). Its absence, therefore, does not exclude heredo-syphilis. (3) Epitrochlear adenitis is sufficiently frequent in heredo-syphilis to make its examination always advisable. Its diagnostic value is greatest in young children. Tuberculosis is very rare before six months of age, and up to one year can easily be excluded by the cuti-reaction. (4) In syphilis which is latent or without specific manifestations, epitrochlear adenitis may be regarded as a sign of real value. It is sometimes the only evidence of the infection. J. D. Rolleston.

So-called "syphilitic rickets" (*'La Pediatria,'* 1915, XXIII, *p.* 689).—**S. Mura** gives tables of eighteen cases which fall into three groups: (1) Those in which rickets must be considered to be the only or most evident manifestation of syphilis. This group shows early development, prevalence of cranial lesions, marked splenic enlargement, and anæmia. (2) Those in which there are other specific manifestations—cutaneous, osteochondral, or visceral. (3) Those in which syphilis is probably a dystrophic cause and prepares the way for ordinary rickets. The author's cases show that the majority of them—fifteen out of eighteen—had been entirely breast-fed, that the chief seat of the rachitic lesions was the skull, particularly the occipital region, and that the rickets always appeared early, and was invariably accompanied by splenic enlargement and more or less intense anæmia.

VINCENT DICKINSON.

The ætiological relationship between chronic hydrocephalus and hereditary syphilis (*'La Pediatria,'* 1915, XXIII, *p.* 568).—**S. de Stefano** gives a table of thirty-five cases showing the frequency with which this relationship occurs. Noguchi's luetin reaction was practised in eight cases only, being positive in four and negative in four. Concomitant syphilitic lesions were present in twenty cases, mainly rhinitis and splenomegaly. The effect of antisyphilitic treatment was much less than might have been expected even in cases treated early and energetically, but this is not surprising considering the large number of negative results in tabes and progressive paralysis, the syphilitic nature of which is often proved by discovery of the spirochætæ.

VINCENT DICKINSON.

The Wassermann reaction in congenital syphilis (*'Arch. of Ped.,'* 1915, XXXII, *p.* 522).—**J. A. Roddy,** during the last 5 years, has found Wassermann's reaction positive in 8 out of 100 private cases and in 12 out of 215 hospital patients who had diseases of obscure origin in which neither the history nor signs indicated syphilis, and in which the subsequent course proved the correctness of the reaction. Roddy maintains that here is a professional obligation to make serological and luetin examinations of all hospital patients.

J. D. ROLLESTON.

Congenital syphilis in the light of the Wassermann reaction (*'Journ. Amer. Med. Assoc.,'* 1915, LXV, *p.* 682).—**D. J. Glomset** reports two instances in which syphilis was apparently transmitted into the third generation.

T. R. WHIPHAM.

Noguchi's luetin reaction in hereditary syphilis (*'La Pediatria,'* 1915, XXIII, *p.* 573),—**G. Gatti** practised this test in 188 children aged from 0 to 10 years. In 134 who were under strict observation there were 10 in the first few days of life, 22 free from syphilis, 2 doubtful, and 100 certainly infected from 1 month to 10 years of age. Except in the newborn Wassermann's reaction was also performed both on the children and parents, most often on the mothers. In the newborn the luetin reaction was negative in 3 legitimate infants, negative in 2, and positive in 5 out of 7 illegitimate. In 24 free from clinical manifestations of syphilis the luetin reaction was negative in all; the Wassermann reaction was also negative in them and in both parents. Out of 100 cases certainly syphilitic Wassermann was positive in 40 only, whereas Noguchi was positive in 62.

VINCENT DICKINSON.

Noguchi's reaction in hereditary syphilis (*'La Pediatria,'* 1915, XXIII, *p.* 589).—**E. Bellomonte** made extensive observations to elucidate (1) the relation between Noguchi's reaction and syphilitic processes in infants, (2) the relation between the reactions of Noguchi and Wassermann, (3) the relation between the behaviour of these reactions in the children and their parents, and (4) the value of Noguchi's reaction as a test of hereditary syphilis. From the tables given it appears that the luetin reaction in affected children with or without clinical manifestations is positive in a large number of cases—slightly lower results were obtained by Wassermann's. In the parents decidedly affected the mothers gave positive results with luetin in the greater number of instances, while Wassermann's reaction was positive in only half the cases. Noguchi's reaction showed a percentage of cases of hereditary syphilis greater than Wassermann's, but even with the former there were a great number of children definitely affected who did not react, but did so with Wassermann. There were cases in which Noguchi was positive and Wassermann negative, and *vice versâ*. This fact, noticed by Noguchi himself, may have various explanations. In some cases Wassermann was positive in the parents and negative in the children, while luetin gave positive results also in the latter. The luetin reaction, therefore, must not be considered a substitute for Wassermann's reaction since there are cases which give one reaction but not the other.

VINCENT DICKINSON.

The prognosis and treatment of congenital syphilis, with a plea for notification (*'Glasgow Med. Journ.,'* 1915, I, *p.* 330).—**L. Findlay** and **M. E. Robertson** point to the prime importance of the efficient treatment of congenital syphilis and present a synopsis of the results obtained by them with different methods during the past two years at the Glasgow Sick Children's Dispensary. The cases are classified into four groups as follows: (1) Cases treated with mercurial inunction and, in breast-fed children, by the administration of pot. iod. and hyd. perchlor. to the mother. (2) Cases treated with joha and neo-salvarsan by intra-muscular injection and mercurial inunction. (3) Cases treated with neo-salvarsan by intravenous injection and mercurial inunction. (4) Antenatal treatment; treatment of pregnant women by the intravenous injection of neo-salvarsan and by mercurial inunction. In the last group the clinical histories of seven cases so treated are given briefly. The authors, while admitting the value of educative measures, make a strong plea for notification. They assert that "we must have notification—confidential if you like—but notification of some sort if we are going to tackle this disease seriously. After all, is there any radical difference between the compulsory and confidential forms? The knowledge that a certain individual is infected will only be shared by him with his medical advisers, as at present, and a third impartial official, the medical officer of health. If the patient will consent to treatment there is an end to the matter; but if not, the health authorities must be in the position to enforce it, and where the patients cannot afford the necessary treatment, they must be supplied with it. This would entail the setting up of dispensaries and night cliniques, and also the institution of medical visitors, who would carry out the treatment at home when this was thought desirable. No doubt such a scheme would cost the community a considerable amount, but the expenditure would be well worth while if it resulted, as it most certainly would, in a healthier race, and in the removal from the rates of a large number of physical and mental wrecks." J. ALLAN.

Reviews.

TUBERCULOSIS DEL CORAZÓN, DE LA SANGRE, Y DE LOS VASOS LINFÁTICOS. By Dr. A. MARTINEZ VARGAS. Barcelona: J. Vives. 8vo, pp. 40, with four illustrations in colour.

THIS pamphlet consists of a paper that should have been read at the New York Meeting of the American National Association for the Study and Prevention of Tuberculosis in 1908. The author, however, failed to obtain leave of absence from the Spanish Minister of Public Instruction; and so the paper was never delivered in America. The most valuable part of its contents gives a full account of tuberculosis of the heart-muscle, a rare pathological phenomenon, of which the literature contains but sixty instances. Dr. Vargas gives full details and four coloured reproductions of a sixty-first case, observed by himself in 1907. The patient, an ill-nourished girl, aged 5 years, presented signs of the micropolyadenopathy, described as tuberculous by Legroux in 1888, tuberculosis of the lungs, and tuberculous meningitis; the heart appeared normal from the clinical point of view, excepting an arrhythmia that was put down to the respiratory irregularity and the meningitis. The child died in a week. At the autopsy the meninges, lungs, bronchial glands, and mesenteric glands were found to be stuffed with tubercles. The pericardial sac was normal, and contained a small amount of serum. The auricles and ventricles all showed numerous superficial tubercles, yellow in colour, hard, free from inflammatory infiltration around them, for the most part grouped three or four together. Their size is not stated; in the coloured pictures they appear to have varied up to 3 mm. in diameter. On opening the heart the right ventricle was seen to contain a regular and confluent eruption of small tubercles; there were seven nodules on the central flap of the tricuspid valve, and others on the chordæ tendineæ. The left auricle and ventricle resembled a seed-bed of tubercles, with an important group of them on the columnæ carneæ. The mitral valve was free. The myocardium contained numerous hard or crude tubercles throughout. None of the tubercles had softened; the microscopical picture was typical. Dr. Vargas describes the case as one of tuberculous myocarditis, a condition first described by Townsend, of Dublin, in 1832; he believes infection of the heart-muscle to have taken place by the blood-stream, and is unable to accept the view that it is ever primary. He notes that myocardial tubercles usually occur in the ventricles, less often in the auricles, and divides the cases into five classes: (1) Incipient miliary tuberculosis; (2) tuberculoma, up to the size of a hen's egg; (3) diffuse tuberculosis, with nodules of various sizes, as in his own case, and either with or without tuberculous pericarditis; (4) diffuse sclerotic tuberculous myocarditis, with or without the characteristic microscopical appearances of tuberculosis; and (5) tuberculosis with softening and the formation of cavities or ulceration, a case of which was published in 1889 by Mariani, of Madrid. Dr. Vargas remarks that the symptoms and signs of tuberculous myocarditis, occurring as it does in patients with tuberculosis of other parts of the body, are naturally indefinite, consisting in rapidity, irregularity, and feebleness of the heart's action, with dyspnœa and heart-failure. He adds that tuberculous endocarditis, a rare phenomenon, occurs occasionally in the course of miliary tuberculosis, and may be either acute or chronic in its course; in his own patient it produced no valvular murmurs.

The second half of the pamphlet is devoted to tuberculosis of the blood and lymphatic vessels. It is based on a study of the literature, and adds ittle to our knowledge of these subjects. A. J. J.-B.

The Rockefeller Sanitary Commission for the Eradication of Hookworm Disease. Fifth Annual Report for the year 1914. Offices of the Commission, Washington, 1915.

This report contains an interesting account of the work done by the Rockefeller Sanitary Commission for the eradication of hookworm disease, the wide distribution and serious effects of which in the southern states of North America were first pointed out by Dr. Charles W. Styles (*vide* British Journal of Children's Diseases, 1909, vi, p. 478).

The Commission was first organised in October, 1909, and consisted of twelve members, including Drs. William Welch, Simon Flexner, Charles Styles, and Mr. John D. Rockefeller, jun. A sum of one million dollars was placed at their disposal by Mr. John D. Rockefeller, sen., and co-operative arrangements were at once entered into with the departments of health in eleven southern states (Virginia, North and South Carolina, Georgia, Tennessee, Arkansas, Mississippi, Alabama, Louisiana, Kentucky, and Texas).

The results accomplished were eminently satisfactory and may be summarised as follows:

(1) The reality and seriousness of the disease which had hitherto been ignored or made light of were brought home to the medical profession and the public.

(2) An infection survey based on microscopical examination of at least 200 rural children between the ages of 6 and 18 in each county was completed for 596 counties in the 11 states. The total number of children examined was 548,992. Of these 39 per cent. were found to be infected, a reduction of 4 per cent. from the 43 per cent. infection found among the children examined prior to 1914.

(3) The sanitary survey to determine by counties the condition of soil-pollution responsible for the infection was completed in 653 counties. Of the 250,680 farmhouses examined, 125,584 were found to be without privies.

(4) Dispensary work not only for the free examination and treatment of patients, but also for educational purposes was conducted in 578 of the 968 counties included in these States.

(5) The co-operation of the medical profession was secured by sending physicians pamphlets and bulletins, by the publication of articles in the medical journals, and by lectures before medical societies.

(6) The medical schools in each state were induced to provide instruction in the diagnosis and treatment of intestinal parasites.

(7) The assistance of the lay press was enlisted.

(8) Definite instruction in the subject of hookworm disease and the dangers and prevention of soil pollution was made a part of the school course in eight states.

(9) Intensive community work was done in twelve communities distributed over four states. The county dispensary was used as an educational agency for instructing the inhabitants in the dangers of the disease and in the measures to be adopted in combating it.

(10) A remarkable growth in the state and local health service.

The report contains numerous statistical tables showing the incidence of infection in the various states during the quinquennium 1910–14 followed by maps of the infected districts and photographs illustrating the effects of hookworm disease and the results of treatment. J. D. R.